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Mexico and the North American Free Trade Agreement – Growing Clean

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MEXICO AND THE NORTH AMERICAN FREE TRADE AGREEMENT — GROWING CLEAN?

INTRODUCTION

Industrialization threatens Mexico's natural resources, and without regulation the deterioration will only increase. Mexico's economic development has exposed its soil, air, water, flora and fauna to extreme degradation.¹ Although the crisis is apparent, specific actions to preserve the environment have been slow in coming. With the possibility of the North American Free Trade Agreement (NAFTA) pending among Mexico, the United States and Canada, ecology occupies center stage in the negotiation process. While NAFTA proponents argue that it will create a free trade zone of 360 million consumers, with an annual output of more than \$6 trillion,² many environmentalists maintain that NAFTA will bring unrestrained development and aggravate existing environmental problems in Mexico.³

NAFTA is the first attempt to negotiate a free trade agreement between major industrial powers, such as the United States and Canada, and a developing country, such as Mexico.⁴ Environmentalists argue that to create a truly level playing field between nations at such disparate levels of development, a range of issues, not addressed in previous free trade agreements, must be addressed, particularly environmental impact.⁵ While widespread disagreement exists over the effectiveness of environmental safeguards in the proposed NAFTA, environmentalists acknowledge that NAFTA negotiations marked a turning point in history; for the first time trade issues were closely linked to environmental concerns.⁶

This Note explores the possible effects of NAFTA on Mexico's environment and examines the political, legal and economic mechanisms developed by its authors to mitigate any negative environmental impact. Part I discusses the economic and environmental impact of NAFTA on both Mexico and the United States. Part II describes Mexico's current

1. Salvador Herrera Toledano, *The Ecological Factor In the NAFTA*, Business Mexico, American Chamber of Commerce of Mexico, Apr. 1992, available in LEXIS, Nexis Library, Omni File.

2. Rivaling the 12-nation European community in economic power and influence. *North American Free Trade Agreement Greeted With Suspicion By Environmental Groups*, Int'l Env't. Daily (BNA), Sept. 10, 1992, available in LEXIS, Nexis Library, Omni File. See also S.C. Gwynne, *Treaties From Yukon to Yucatan; Congress Authorizes Bush to Negotiate a U.S.-Mexico Free-Trade Pact that Would Create a \$6 Trillion Market, but Critics Fear Lost Jobs and Environmental Woes*, TIME, June 3, 1991, at 20.

3. *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, supra note 2.

4. *Importance of Environmental Issues to Treaty Approval Stressed By Baucus*, Washington Insider (BNA), June 4, 1992, available in LEXIS, Nexis Library, Omni File.

5. *Id.*

6. Larry B. Stammer, *Impact on Environment Questioned*, L.A. TIMES, Aug. 13, 1992, at A6.

regulatory bodies and environmental enforcement procedures. Part III delineates the provisions of the Integrated Environmental Plan for the Mexican-U.S. Border Area (First Stage, 1992-1994),⁷ which is a result of negotiations between the former Bush and Salinas Administrations, and determines that by failing to provide recourse against a country that lowers environmental and health laws to attract investment, the Plan fails to address the very environmental concerns that promulgated it. Finally, this Note concludes that in view of President Clinton's position that he will not seek congressional approval of NAFTA unless the Mexican government answers his concerns on environmental issues, it seems likely that NAFTA and/or the Integrated Environmental Plan will be revised to provide remedies against a signatory that reduces environmental standards to attract investment.

I. NAFTA'S ECONOMIC AND ENVIRONMENTAL EFFECT ON MEXICO AND THE UNITED STATES

Mexico, the United States and Canada are currently engaged in the negotiation of a North American Free Trade Agreement (NAFTA). NAFTA is intended to reduce tariff and non-tariff barriers to trade among the three countries and to create an open trading market for over 360 million people.⁸ The proposed NAFTA is the result of longstanding trends in both Mexico and Canada toward sharing production with U.S. companies and conducting more than 70% of their trade with the United States.⁹ The decision to deepen and formalize these economic ties was set in motion by Mexican President Carlos Salinas de Gortari in June, 1990 when he requested a free trade agreement with the United States.¹⁰ Negotiations on NAFTA commenced thereafter with a tri-lateral meeting of trade ministers on June 12, 1991.¹¹

A. *Forecasted Macroeconomic Effects*

Trade liberalization has been a major contributing factor to the unprecedented growth of the U.S. and other global economies since the 1960's.¹² Global tariff averages have decreased from 40% to 4% since 1947.¹³ These tariff reductions have stimulated global trade enormously.

7. Integrated Environmental Plan for the Mexican-U.S. Border Area (First Stage, 1992-1994), U.S. Environmental Protection Agency [hereinafter Integrated Environmental Plan].

8. *Id.* at I-5; see also Douglas A. Levy, Administration Hails Trade Deal's Environmental Provisions, UPI, Aug. 13, 1992, available in LEXIS, Nexis Library, Omni File.

9. M. Delal Baer, *North American Free Trade*, FOREIGN AFF., Fall 1991.

10. *Id.* "Salinas' request for a free-trade agreement was virtually assured of a warm response from a Texan president needing little education in the geopolitical or economic importance of Mexico." *Id.*

11. Integrated Environmental Plan, *supra* note 7, at I-5.

12. Interagency Task Force, Review of U.S.-Mexico Environmental Issues, Feb. 1992, at 60 [hereinafter Review of U.S.-Mexico Environmental Issues].

13. *Id.*

"This rapid trade expansion, in turn, has encouraged investment, employment, technological development and economic growth in the United States and abroad."¹⁴ The purpose of NAFTA negotiations is to craft an agreement which allows the three countries, Mexico, the United States and Canada, to realize the economic gains from further trade liberalization as well as to build stronger economic and political relationships in the decades ahead.¹⁵ NAFTA's overall effect would be to consolidate 360 million consumers into a \$6 trillion market, 32% larger than the European Community¹⁶

1. Projected Impact on the Mexican Economy

In the early 1980's Mexico's economy malfunctioned due to the strain of sixty years of statism, economic nationalism and single-party rule.¹⁷ In 1982, falling oil prices, a mounting debt crisis and the exhaustion of import-substitution policies brought the economy to the brink of collapse. Mexican leaders, left with little choice, sought alternative growth strategies.¹⁸ "Economic reform was born of necessity"¹⁹

Beginning with President Miguel de la Madrid's term, 1982-1988, and continuing with the present term of President Salinas, Mexico has jettisoned its statist policies, privatizing many of its 1,155 inefficient state-owned companies, trimming deficits, promoting exports through shed-

14. *Id.* at 61.

15. *Id.* See also Matilde K. Stephenson, *Mexico's Maquiladora Program: Challenges and Prospects*, 22 ST. MARY'S L.J. 589, 591 (1991) ("Good relations with Mexico are one of the most important advantages since Mexico is a very important trading partner—U.S.-Mexico trade in 1989 reached \$52 billion. In addition, good commercial relations provide a platform for dealing with other sensitive issues such as the foreign debt, drug trafficking and immigration.")

16. Gwynne, *supra* note 2.

17. Baer, *supra* note 9.

18. *Id.* See also, Rodolfo Villalobos and Bruce B. Barshop, *Social Infrastructure Needs of the Maquiladora Industry: A Proposal for United States Corporate Contributions*, 22 ST. MARY'S L.J. 701, 702 (1991).

19. Villalobos and Barshop, *supra* note 18, at 702-03. Some of the extraordinary challenges facing Mexico were noted by President Salinas in his address to a Joint Session of the United States Congress on October 4, 1989:

To the backlogs already accumulated has been added almost a decade of economic stagnation and a 50 percent drop in the population's living standards. My nation is required to meet the demands of 85 million Mexicans; despite the drop in population there will be 10 million more in the next five years. This means the need for more food, urban services, housing, education, [and] a clean environment. Every year a million young people will enter the employment market. Over the last seven years, Mexicans made enormous sacrifices. During that period we could not count on external flows of financing; oil revenues dropped by an amount equivalent to 6 percent of the GDP; the terms of our trade evolved negatively; excessive indebtedness became one of the most significant obstacles to development; we suffered devastating earthquakes and natural disaster. Mexico has put its public finances on a sound footing with an effort equivalent, in relation to the GDP, to more than three times the size of the Gramm-Rudman Amendment.

Id.

ding the shackles of protectionism by lowering trade barriers and entering the General Agreement on Tariffs and Trade (GATT).²⁰ In particular, Mexico has slashed its maximum tariff rates from 100% to 20% and its average tariff from 25% to 10%.²¹ In addition, import licenses, which in 1983 controlled all Mexican imports, were slashed and presently cover only 250 items, roughly 7% of the value of U.S. exports to Mexico.²² Finally, in May of 1989, the Salinas Administration issued new regulations, which went a long way toward reforming Mexico's investment rules, and thereby began the process of opening doors for American and other foreign investors.²³

As a result of these and other efforts, Mexico's economy is expanding at a brisk 4% annual rate after years of negative growth.²⁴ Inflation plummeted from 160% in 1987 to about 25% in 1991.²⁵ "The boom has created new markets for U.S. exports, which have more than doubled from 12.4 billion in 1986 to 28.4 billion [in 1991], creating an estimated 264,000 new jobs in the U.S. machinery, equipment and agriculture sectors."²⁶ Consequently, Mexico has become America's third largest trading partner (after Canada and Japan), importing \$295 per capita from the United States, as opposed to \$266 per capita from the European Community.²⁷

Studies indicate that a free trade agreement would accelerate these welcomed economic trends in Mexico.²⁸ These studies project expanding trade and increased income for each of the three countries, with the largest economic benefits from NAFTA accruing to Mexico.²⁹ Although certain Mexican industries, such as capital goods, would suffer from U.S. competition at first, those losses would be more than balanced by a flood of new investment from the United States, Japan and other nations.³⁰ Furthermore, the influx of new investments could help offset Mexico's burdensome \$97 billion debt, for which few prospects of forgiveness

20. *Id.* at 703. The Mexican government has privatized over 750 public enterprises, promoted the sale of various public utilities, deregulated such areas as telecommunications and transportation, re-established private sector banking, lowered the increase in its consumer price index from 160% to less than 20%, simplified foreign investment procedures and promulgated new regulations for foreign investments. *Id.*

21. Gwynne, *supra* note 2. See also *Testimony of Ambassador Carla A. Hills, United States Representative, Before the Subcomm. on Trade, Committee on Ways and Means, U.S. House of Representatives*, June 14, 1990, reprinted in 22 ST. MARY'S L.J. 583 (1991) [hereinafter *Testimony of Ambassador Carla Hills*].

22. *Testimony of Ambassador Carla Hills, supra* note 21, at 584.

23. Gwynne, *supra* note 2. See also Sanderson & Hayes, *Mexico-Opening Ahead of Eastern Europe*, HARV. BUS. REV., Sept.-Oct. 1990, at 40.

24. Gwynne, *supra* note 2.

25. *Id.*

26. *Id.*

27. *Id.*

28. According to separate studies by the University of Maryland, the accounting firm of Peat Marwick and the International Trade Commission. *Id.*

29. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 61.

30. Gwynne, *supra* note 2, at 21.

exist.³¹

2. Projected Impact on the United States Economy

Although most agree that NAFTA will have a positive impact on Mexico's economy, no such agreement exists as to the effect on the United States' economy. Opponents fear that Mexico's low wages³² will tempt U.S. companies to move vast numbers of unskilled and semi-skilled manufacturing jobs south of the border.³³ A Mexican free trade agreement may accelerate the decline in the number of American manufacturing jobs, which provided 35% of U.S. employment in 1948, but now account for only 17%.³⁴ However, NAFTA proponents, such as Democratic Senator Bob Kerrey of Nebraska, maintain that the focus should not be on low-skilled jobs, but rather, the deteriorating competitiveness of the workforce and efforts to address worker education, training and readjustment.³⁵

NAFTA proponents cite recent economic studies outlined in the Bush Administration's May 1, 1991 Response to Congress and several other studies completed since that date, which conclude that NAFTA would generate small but positive overall economic benefits to the U.S. economy.³⁶ Proponents further note that U.S. manufacturers would benefit from free trade with Mexico by the elimination of Mexico's high barriers to imports.³⁷ In addition, proponents maintain that liberalization of the remaining U.S. barriers to Mexican imports will not cause major disloca-

31. *Id.*

32. Averaging \$2.32 an hour v. \$14.31 for American workers. Villalobos and Barshop, *supra* note 18, at 713. An International wage comparison (benefits included) for production workers, based on U.S. dollars per hour, found the following figures:

	1981	1983	1986	1989
MEXICO	1.85	1.03	0.94	1.39
Maquiladora Sector (direct labor and technicians)				
CANADA	9.22	10.85	11.00	14.71
UNITED STATES	10.84	12.10	13.21	14.31

Id.

33. Gwynne, *supra* note 2, at 21.

A recent study by the General Accounting Office, for example, found that employment in the U.S. furniture industry dropped 10% in the past year. All those jobs were lost when 28 wood-furniture makers moved to Mexico in search of cheaper labor and less restrictive environmental rules. Florida's fruit and vegetable growers claim the plan would 'annihilate' 8,700 agricultural jobs and billions of the state's farming revenue. According to the the United Automobile Workers, 75,000 jobs have already been lost to Mexico.

Id.

34. *Id.*

35. *Id.*

36. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 61. These studies estimate that the level of U.S. Gross Domestic Product would be as much as 5% higher once NAFTA is fully implemented.

37. *Id.* at 61-62. "Eliminating these barriers would have a relatively great impact on

tion of U.S. workers since: (1) the U.S. economy is twenty-five times the size of the Mexican economy; (2) U.S. barriers to imports from Mexico are already quite low; and (3) remaining U.S. trade barriers would be phased out gradually in NAFTA over a number of years.³⁸ Finally, proponents highlight that, in purely economic terms, the U.S. will profit from Mexico's prosperity.³⁹ Consequently, a consensus exists among proponents of NAFTA and others that the result of a U.S.-Mexican free trade agreement will be future growth in the number of U.S. jobs.⁴⁰

B. *Environmental Issues Relevant to NAFTA*

1. NAFTA Opponents

One of the strongest arguments against NAFTA is not economic, but ecological.⁴¹ Leading U.S. environmentalists who oppose the trade pact fear American and Canadian companies will be induced to shift their operations to Mexico to take advantage of weaker environmental standards and less stringent enforcement.⁴² To support their position, environmentalists point to Mexico's bordering industrial wastelands which remain the strongest objective lesson in the perils of ecologically unchecked development.⁴³ Environmental groups fear that leaks and spills polluting border rivers, such as the New River, will turn the border into a cesspool, and that Mexico will eventually export to the U.S. its pollution and products made in environmentally unfriendly ways.⁴⁴ The environmentalists' fear is heightened by the fact that NAFTA fails to contain a recourse provision against countries that lower their environmental and health laws to attract investment.

Other concerns with NAFTA's environmental impact include a fear that free trade will lead to:

- unfettered Mexican access to U.S. markets, causing a rapid expansion of pollution prone industries, such as steel making and chemi-

the ability of U.S. producers in these sectors to penetrate the Mexican market, thereby expanding U.S. output and employment in these sectors to a relatively high degree." *Id.*

38. *Id.* at 62.

39. Baer, *supra* note 9.

U.S. exports to Mexico increased from \$12.4 billion in 1986 to \$28.4 billion in 1990 as the Mexican economy recovered. This generated hundreds of thousands of U.S. jobs. About 70% of Mexico's imports come from the United States. As Mexico earns more from its exports it buys more imports from the United States.

Id.

40. See Baer, *supra* note 9.

41. See Gwynne, *supra* note 2.

42. Paul Sherman, *United States, Mexico Agree on Environmental Pact*, UPI, Sept. 5, 1992, available in LEXIS, Nexis Library, Omni File. See also Gwynne, *supra* note 2.

43. William A. Orme, Jr., *'Fast-Track' Opponents Can't Hide Behind a Green Fig Leaf Anymore*, L.A. TIMES, May 12, 1991, at M2.

44. Gwynne, *supra* note 2.

cal production;⁴⁵

- increased timbering of Mexico's already scarred landscape;⁴⁶
- a flood in U.S. markets of inexpensive oil and natural gas from Mexico, thereby distracting the U.S. from meeting its energy needs through increased efficiency;⁴⁷
- the misuse of fertilizers and pesticides and neglect of soil conservation by Mexican farmers eager to gain new access to U.S. produce markets;⁴⁸ and
- an increase of land transportation traffic (to the extent increased trade would follow the implementation of NAFTA) as a result of liberalization of truck and bus access to Mexico which would cause a negative impact on air quality due to the lack of low sulfur diesel fuel on Mexican highways and an increase in noise and congestion at crossing and transit routes.⁴⁹

Finally, environmentalists fear that the practical mechanics of implementing free trade will dictate the "harmonization"⁵⁰ of environmental standards between the United States and Mexico to ensure that different regulatory systems do not distort the trade patterns promulgated by NAFTA.⁵¹ Responding to the fear that NAFTA will lead to a harmonization of environmental regulations, the U.S. Administration made "a firm commitment to preserve the right to maintain stringent health, safety or environmental standards, and to maintain the right to exclude products that do not meet such requirements."⁵²

45. Bruce Stokes, *Green Talk Trade*, NAT'L J., Apr. 13, 1991, available in LEXIS, Nexis Library, Omni File.

46. *Id.*

47. *Id.*

48. *Environmentalists React Cautiously to Announcement that NAFTA Completed*, Int'l Env'tl. Daily (BNA), Aug. 14, 1992, available in LEXIS, Nexis Library, Omni File. *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2.

49. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at Executive Summary-8. See also *Critics Say Trade Agreement Would Weaken Rules on Hazardous Materials Transport*, Int'l Env'tl. Daily (BNA), June 19, 1992, available in LEXIS, Nexis Library, Omni File.

50. "The idea that governments must set uniform (i.e., permissive) international standards to facilitate the flow of goods." Carl Pope, *Borderline Issues*, 76 *Sierra* 23, Sept.-Oct. 1991.

51. *Id.* See also Stokes, *supra* note 45. "Such critics argue that the U.S.-Canadian agreement has already led to a decrease in inspections of imported Canadian beef and a rise in contaminated beef entering the U.S. market from Canada." Review of U.S.-Mexico Environmental Issues, *supra* note 12, at Executive Summary 8-9. See generally Reilly Says NAFTA Gives Precedence to Environment Treaties Allowing Sanctions, Int'l Trade Rep. (BNA) Aug. 19, 1992, No. 34, at 1447, available in LEXIS, Nexis Library, Omni File; *NAFTA: Importance of Environmental Issues to Treaty Approval Stressed by Baucus*, Washington Insider (BNA), June 4, 1992, available in LEXIS, Nexis Library, Omni File.

52. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at Executive Summary 8-9. See also Pope, *supra* note 50, at 23; *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2, at 35.

In an eight-page critique of the summary [of NAFTA] Wallach [Lori Wallach, a staff attorney for Public Citizen in Washington, D.C.] questioned the administration's assertion that the agreement 'provides that no NAFTA country should

2. NAFTA Proponents

NAFTA proponents, including mainstream environmentalists, temper concerns about ecology with sensitivity to Mexico's need for development.⁵³ They argue that "[e]nvironmental protection has been the luxury of rich industrialized nations. Trade-related growth could help Mexico break the vicious cycle of economic desperation that causes environmental degradation in many Third World nations."⁵⁴ William Reilly, former head of the U.S. Environmental Protection Agency, has argued that a free trade pact would actually help the environment, stating "[e]nvironmental improvement will not occur in Mexico or any other developing country without the money to reduce pollution, apply new technologies, support government programs and pay for inspectors, regulators and prosecutors."⁵⁵

A new study by two economists at Princeton University indicates that by enriching Mexico, the regional free-trade zone would heighten that country's sensitivity to the environment and give it the resources to manage critical pollution problems.⁵⁶ "[R]ecent moves by the Mexican government to shut down polluting refineries and private factories, lower the lead content of gasoline and force power-generating stations to switch from dirty fuel oil to cleaner gas, [evidences] that Mexico is already turning the corner."⁵⁷ Furthermore, the study projects that few U.S. factories will actually move south of the border to take advantage of looser environmental restrictions since a firm's choice of location tends to be influenced more by the cost and skill level of workers than by the cost of meeting pollution standards.⁵⁸

NAFTA proponents further point to the fact that William Reilly has

lower its health, safety, or environmental standards for the purpose of attracting investment.' She said that at an August 15 briefing, EPA officials and representatives of the U.S. Trade Representative admitted that the provisions do not allow any action to be taken against a NAFTA country that does attract investment via reduction of environmental and health standards.

Id.

53. Baer, *supra* note 9, at 42.

54. *Id.* See also Orme, *supra* note 43, at M2.

55. Jonathan Marshall, *How Ecology is Tied to Mexico Trade Pact. Both Sides of Issue Use Environment in Debate*, S.F. CHRONICLE, Feb. 25, 1992, at A8.

56. *Id.* The two economists, Gene Grossman and Alan Krueger, studied air-quality levels around the world in relation to each nation's per capita income, to determine whether pollution rises or falls with development. Their studies revealed that sulfur dioxide and smoke levels generally rise as income grows to about \$4,000 per person and then fall as countries become able to afford cleaner technology and more effective controls. These Princeton economists concluded that since Mexico's income level is about \$5,000 per person, "further growth in Mexico, as may result from a free-trade agreement with the United States and Canada, will lead the country to intensify its efforts to alleviate its environmental problems." *Id.*

57. *Id.*

58. *Id.* "[F]reer trade will probably lead Mexico to specialize in such labor-intensive activities as textiles, apparel and agriculture, which are less polluting than heavy industry." *Id.*

noted that international, environmental and conservation treaties which allow trade sanctions for enforcement will take precedence over NAFTA.⁵⁹ According to EPA statements, NAFTA specifically gives priority to trade sanction provisions in three existing treaties: the Montreal Protocol on Substances that Deplete the Ozone Layer; the Convention on International Trade in Endangered Species; and the Basel Convention on Transboundary Shipments of Hazardous Waste.⁶⁰ Consequently, according to an EPA statement, in the event of any inconsistency between NAFTA and the mandatory trade provision of these key environmental or conservation agreements, these key agreements will prevail.⁶¹

Finally, NAFTA proponents argue that environmental concerns regarding the air, soil and water of Mexico's highly polluted border area have been properly addressed in a parallel agreement, the Integrated Environmental Plan.⁶²

II. MEXICO'S ENVIRONMENTAL REGULATORY SCHEME

Despite Mexico's emphasis on modernization, the government has maintained that economic growth and development will not occur at the expense of the environment.⁶³ Mexico's political commitment to the environment was expressed by President Salinas in his 1991 State of the Union Address when he stated: "Mexico will not receive new, polluting industries that are not accepted in other countries. And just as we do not want dirty or obsolete industries, we do not want to see our territory or our seas turned into garbage dumps whether for ourselves or others."⁶⁴ Furthermore, on March 14, 1991, President Salinas stated that, in accordance with NAFTA, Mexico will refuse entry of investments or manufacturing processes rejected by the United States and Canada as environmentally harmful, and will accept only productive activities that maintain the environment and quality of air and water.⁶⁵ Former United States Trade Representative Carla Hills has stated that the U.S. government will attempt to ensure that Mexico observes such high standards,⁶⁶ and provisions of NAFTA "provide that no NAFTA country should lower its health, safety or environmental standards for the purpose of

59. *Reilly Says NAFTA Gives Precedence to Environment Treaties Allowing Sanctions*, *supra* note 51, at 1447. "We are explicitly recognizing in the trade treaty those environmental agreements that have trade sanctions to enforce them." *Id.*

60. *Id.*

61. *Id.*

62. *Environmentalists React Cautiously to Announcement that NAFTA Completed*, *supra* note 48. See *infra* Part III of this Note for a discussion of the Integrated Environmental Plan for the Mexican-U.S. Border Area.

63. Anne Alonzo, Loyola Law School Institute for Latin American Legal Studies, *A Paper Presented To The Conference on Free Trade And Environment In Latin America 3* (1992) (copy on file with the *Fordham Environmental Law Report*).

64. *Id.*

65. Toledano, *supra* note 1.

66. *Id.*

attracting investment.”⁶⁷ However, EPA officials have acknowledged that NAFTA provisions do not allow any action to be taken against a NAFTA country that does attract investment via reduction of environmental and health standards.⁶⁸ Consequently, President Salinas’ commitment that industrial development will not occur at the expense of the environment depends almost solely on Mexico’s environmental regulatory program and enforcement procedures.

A. *Background—Mexico’s Constitution and Legal System*

Mexico’s legal system is a civil law system, which relies largely on administrative institutions and measures for interpreting and enforcing the law.⁶⁹ In contrast, the U.S. common law system relies on judicial institutions and litigation, in addition to administrative regulation and review. “Mexico’s legal environmental regime is comprised of laws, regulations and standards. The regime is implemented by a combination of federal, state and local government authorities acting in cooperation with one another.”⁷⁰

“Mexico’s environmental regime is found in Articles 25, 27 and 73 of Mexico’s Constitution. Article 25 specifically establishes federal jurisdiction in matters of environmental protection.”⁷¹ Direct reference to the mandate of the preservation and restoration of an ecological balance with respect to all natural resources is made in Article 27.⁷² The Mexican Congress is empowered to promulgate environmental legislation through Article 73.⁷³

B. *Implementing Environmental Regulations and Technical Standards in Mexico*

“The modern Mexican environmental legal regime was established in the General Law of Ecological Equilibrium and Environmental Protection (General Ecology Law)⁷⁴ which went into effect March 1, 1988, and

67. *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2.

68. *Id.* See also Keith Schneider, *Trade Pact vs. Environment: A Clash at a House Hearing*, N.Y. TIMES, Sept. 16, 1992, at D1. Congressman Robert T. Matsui, Democrat of California and member of the Ways and Means Trade sub-committee, noted that “[r]ight now, the only way to enforce environmental laws is through negotiations.” *Id.*

69. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 24. Daniel I. Basurto Gonzalez and Elaine Flud Rodriguez, *Environmental Aspects of Maquiladora Operations: A Note of Caution for U.S. Parent Corporations*, 22 ST. MARY’S L.J. 659, 663 (1991).

70. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 24.

71. Alonzo, *supra* note 63, at 3. See also Integrated Environmental Plan, *supra* note 7, at A-1.

72. *Id.*

73. *Id.*

74. General Law of Ecological Equilibrium and Environmental Protection, D.O., Jan. 28, 1988.

abrogated prior environmental law.”⁷⁵ The General Ecology Law encompasses, in one piece of legislation, a wide range of environmental issues including: air, water, and soil pollution; management of hazardous wastes and materials, pesticides and toxic substances; and conservation of wildlife, habitats and natural resources.⁷⁶ Thus, in contrast with legal regimes of other countries that have specific laws for different media, the General Ecology Law covers a full spectrum of forms of environmental pollution.⁷⁷

The General Ecology Law establishes both general criteria and policy guidelines for specific regulatory practices. Since its enactment in 1988, regulations relating to national air pollution, air pollution within the Mexico City metropolitan zone, environmental impact assessment and hazardous wastes have been issued.⁷⁸ In 1979, another regulation covering waste at sea which implements the Vondon Ocean Dumping Convention was adopted.⁷⁹ Furthermore, a new regulation dealing with the prevention and control of water pollution is expected shortly.⁸⁰

75. Alonzo, *supra* note 63, at 3. See also Integrated Environmental Plan for the Mexican-U.S. Border Area, *supra* note 7, at A1; Gonzalez and Rodriguez, *supra* note 69, at 667. The General Law of Equilibrium and Environmental Protection (the General Ecology Law) outlines Mexico's environmental policy. It assigns administrative responsibility, allocates jurisdictional authority among federal, state and local governments, and provides a framework for protecting environmental integrity through the regulation of air, water and hazardous wastes. The General Ecology Law is modelled after the theory of conservation through rational use. The Mexican government believes that the ecosystem belongs to the national community and that all individuals have the right to enjoy a healthy environment. However, it also maintains that with this right comes responsibility; everyone is deemed responsible to preserve present environmental conditions and to assure that resources are conserved for future generations. As evidence of the Mexican government's belief, the General Ecology Law mandates that ecosystems and their elements be used in a manner that assures optimum sustained productivity compatible with their equilibrium and integrity.

76. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 24.

77. Alonzo, *supra* note 63, at 4. This technique is referred to as a “multi-media” approach.

78. Integrated Environmental Plan, *supra* note 7, at A-1. See also Alonzo, *supra* note 63, at 4-5. Mexico's environmental regulations rely upon quantitative ecological technical standards of parameters (NTEs) and ecological criteria to determine compliance. To date, 69 NTEs and ecological criteria have been issued under the General Ecology Law and its regulations. NTEs are developed on a cooperative basis with Mexico's Ministry of Health, which is responsible for gathering health related information, including data on toxicity and existing standards of other countries, and recommending appropriate criteria to the federal agency in charge of implementing the General Ecology Law, the Secretariat of Urban Development (SEDUE). The Ministry of Health's recommended actions are then circulated within the Mexican government for review and comment. These proposed standards are also sent by SEDUE to state and municipal governments as well as Mexican industries and attempts are also made to reach out to the scientific, professional and educational communities for comment.

79. *Id.*

80. *Id.* See also Alonzo, *supra* note 63, at 4.

1. Institutional Framework

a. *The Federal Level*

In 1982, the Secretariat of Urban Development and Ecology (SEDUE), the U.S. EPA's equivalent in Mexico, was established as the primary agency responsible for implementing the General Ecology Law.⁸¹ SEDUE coordinates federal, state and local government efforts addressing environmental problems and development issues relating to the environment.⁸² The three sub-secretariats of SEDUE are the environment, urban development, and housing.⁸³ The environment sub-secretariat is divided into four units managing: (1) the formulation of guidelines, criteria, procedures and technical standards and the review of the environmental impact of new sources; (2) ecological conservation of natural resources; (3) issuance of regulations and enforcement; and (4) environmental promotion and community-based social support programs.⁸⁴ To accomplish its environmental mission, SEDUE coordinates and works closely with a number of other federal agencies and authorities.⁸⁵

b. *Role of the Mexican States*

"The General Law and the Regulations establish SEDUE's concurrent jurisdiction in certain matters with the states and municipalities in specific environmental protection matters."⁸⁶ However, laws or ordinances enacted by Mexican states or municipalities "pursuant to the General

81. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 28.

82. *Id.*

83. *Id.* Alonzo, *supra* note 63, at 5.

84. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 28; Alonzo, *supra* note 63, at 5.

85. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 28.

The Secretaria de Agricultura y Recursos Hidraulicos (agriculture and water resources), or SARH is heavily involved with problems concerning agriculture products and practices and authorization for using the country's water resources. To address agriculture and toxic chemical issues, an inter-agency commission was created in 1987, called CICOPLAFEST [CICOPLAFEST stands for La Comision Intersecretarial para el Control del Proceso y Uso de Plaguicidas, Fertilizantes y Sustancias Toxicas, or the Intersecretarial Commission for the Control of the Processing and Use of Pesticides, Fertilizers and Toxic Substances], in which SEDUE is a member along with three other ministries

The Secretariat of Commerce and Industrial Development (SECOFI) plays a significant role in regulating Mexico's maquiladora industries. The Secretariat of Health is involved in helping to set ambient standards. Also, national commissions on ecology, water, forestry and nuclear safety exist to help implement and coordinate these respective programs.

Id.

86. Alonzo, *supra* note 63, at 5. *See also* Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 29. While the General Ecology Law reserves certain issues for federal jurisdiction such as the licensing of hazardous waste facilities, it assigns other issues to the Mexican states and municipalities. "For example, states and municipalities are responsible for managing local water drainage and sewage treatment systems, with guidance and assistance from the federal government." *Id.*

Law must be at least as stringent, if not more so, than applicable federal regulations or standards.”⁸⁷ Since Mexico has stated that increased decentralization of its environmental system is one of its goals, the states will probably assume more responsibility and authority for environmental protection in the future.⁸⁸ Presently about 27 of 31 Mexican states have adopted their own environmental legislation (including four of the states along the U.S.-Mexico border — Sonora, Neuvo Leon, Coahuila, and Tamaulipas), 761 municipalities have an environmental councilman and 395 citizen environmental committees have developed.⁸⁹

2. Environmental Regulations Promulgated by the General Ecology Law

a. *Environmental Impact Review Process*

“Mexico controls development and land use and assures that it ‘grows clean’ through its environmental impact review process.”⁹⁰ Under the General Ecology Law and the Environmental Impact Regulation, all new sources or causes of “ecological imbalance” in Mexico, both public and private, must undergo an environmental impact review, comply with any promulgated technical standards and receive prior authorization from SEDUE before beginning operations.⁹¹ In addition, Mexico requires a high risk study if the new facility involves a “high risk” activity.⁹² Mexico’s regulatory regime also includes a national system of “ecological zoning” to help conserve and protect its natural resources through setting restrictions on development projects.⁹³ This system defines certain geographical areas, based on legal and environmental criteria, and specifies the type of development which may be undertaken.⁹⁴ This ecological zoning restricts the location of new projects.⁹⁵

In covering both public and private sector activities, Mexico’s environmental impact assessment system goes beyond U.S. law, which generally does not cover state, municipal or private activities.⁹⁶ Furthermore, the federal agency SEDUE has broad discretionary authority to impose and enforce environmentally protective conditions on new sources as part of its environmental review process.⁹⁷

87. Alonzo, *supra* note 63, at 5.

88. *Id.*

89. *Id.* See also Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 39.

90. Alonzo, *supra* note 63, at 5.

91. *Id.* at 5-6. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 25. See also *Foreign Investors Will Not be Allowed to Pollute Environment, Top Official Says*, INT’L ENVTL. DAILY (BNA), Aug. 17, 1992, available in LEXIS, Nexis Library, Omni File.

92. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 25.

93. *Id.* Article 27 of Mexico’s Constitution requires this regime. *Id.*

94. *Id.*

95. *Id.*

96. *Id.* See also Alonzo, *supra* note 63, at 6.

97. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 25.

b. *Air Pollution Control Program*

Mexico's air pollution program uses ambient, health-based criteria similar to the National Ambient Air Quality Standards (NAAQS)⁹⁸ used to regulate air pollution in the U.S.⁹⁹ Stationary air source emissions are regulated through a system of emission limits, registration, new source review and technology-based controls.¹⁰⁰ Also, Mexico has established a mobile source control program that involves tail-pipe emission limits, vehicle inspection and maintenance, fuel content specifications and transportation control.¹⁰¹

Presently, Mexico relies on the new source review process to address future hazardous emissions.¹⁰² In addition, SEDUE has legal authority to adopt specific technical standards for types of emissions.¹⁰³ Mexico has attempted to reduce chlorofluorocarbons (CFCs) to protect the stratospheric ozone by seeking voluntary agreement with industry.¹⁰⁴ Mexico appears to be exceeding the schedule for such reductions for developing countries as set forth in the Montreal Protocol.¹⁰⁵

c. *Water Pollution*

Mexico's water regime controls as many types of sources as does the United States through a technology-based approach, which limits effluents.¹⁰⁶ In addition, Mexico's system provides for the setting of water quality standards and consideration of the assimilative capacity of a water body to determine specific limits for individual discharge points.¹⁰⁷ "Mexico uses registration and permitting programs to manage and control discharges and involves state and municipal governments in the development and enforcement of certain aspects of the water pollution control program."¹⁰⁸

Despite Mexico's broad federal statutory requirements for water pollution control, problems exist in the implementation of this program, including: the failure of Mexico to designate water quality criteria for the uses of every stream in the country; possible use of different criteria for changing the use designations for water bodies; and minimal regulation of toxic pollutant discharges.¹⁰⁹ Accordingly, Mexico's water pollution regime is only in the developmental stage. Present emphasis is being

98. *Id.*

99. *Id.*

100. *Id.* See also Alonzo, *supra* note 63, at 8-9.

101. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 25. See also Alonzo, *supra* note 63, at 8.

102. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 25.

103. *Id.*

104. *Id.* at 25-26.

105. *Id.* at 26.

106. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 26.

107. *Id.*

108. *Id.*

109. *Id.*

placed on the elaboration on a basic regulatory system for municipal waste water treatment.¹¹⁰ Furthermore, a new regulation dealing with both the prevention and control of water pollution is expected to be implemented shortly.

d. *Hazardous Wastes*

The Mexican government mandates that generators of hazardous waste register and file periodic reports on the volumes and types of wastes generated, transported and disposed.¹¹¹ Mexico uses a combination of characteristics and an extraction test to determine what is a hazardous waste.¹¹² A recent U.S. study conducted by an Interagency Task Force coordinated by the Office of the U.S. Trade Representative found that while the range of substances covered under Mexican law appears similar to that in the United States, some of the chemicals covered by the two countries are regulated more stringently in Mexico.¹¹³

Despite increased regulation of some chemicals, Mexico still does not require the installation of a double liner underneath landfills¹¹⁴ or impose closure or financial responsibility requirement on facilities.¹¹⁵ "Mexico lacks an equivalent to the superfund program,¹¹⁶ although it has established a voluntary fund for clean-ups."¹¹⁷ Furthermore, only seven recycling and three disposal facilities are presently authorized and operating in a disposal capacity.¹¹⁸

e. *Pesticides and Toxic Substances*

Mexico regulates pesticides, fertilizers and toxic substances through the General Ecology Law, the Law of Plant and Animal Protection (1940, amended 1974) and the General Health Law.¹¹⁹ Mexico prohibits the import of a pesticide or toxic substance if the product is banned in the country of manufacture or preparation.¹²⁰ Regulations require that pesticide and chemical products be registered, and that importers and exporters obtain permits.¹²¹

110. *Id.*

111. *Id.* at 27.

112. *Id.* at 26.

113. *Id.* at 26-27. The study found that the "[s]etting of disposal facilities is both more and less stringent in Mexico: More stringent with regard to aquifer connected zones and less stringent with regard to flood and seismic zones." *Id.*

114. *Id.* at 27.

115. *Id.*

116. See 42 U.S.C.A. §§ 9601-9675 (West 1988 Supp. 1992).

117. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 27.

118. *Id.*

119. *Id.* "Regulations cover the manufacture, formulation, packaging, labelling, use and disposal of such substances." *Id.*

120. *Id.*

121. *Id.* "Mexico relies to a large extent on the health, safety and environmental data and risk analysis of the country of origin and of the international community." *Id.*

C. Enforcement

Mexico's civil law tradition relies heavily upon administrative mechanisms and negotiations between parties to settle disputes and enforce the law. Thus, greater power is vested in executive governmental bodies to take unilateral actions and to use administrative authority for enforcement.¹²² The General Ecology Law vests SEDUE with primary authority to enforce environmental laws and regulations and to develop quantitative ecological technical standards or parameters (NTEs) and ecological criteria to determine compliance within federal jurisdiction. The states and municipalities have authority to adopt legislation and establish procedures implementing SEDUE's mandates.¹²³

Mexican enforcement practice seeks to perform on a multi-media basis.¹²⁴ Specifically, inspections generally involve a review of impacts on various media at the same time. "SEDUE's multi-media approach to inspections and enforcement actions, combined with its basic environmental statute makes the Mexican environmental system particularly amenable to accomplishing objectives of pollution prevention and waste minimization as enforceable requirements."¹²⁵ Consequently, the United States is now moving towards such a multi-media approach.¹²⁶

1. Enforcement Mechanisms Under the General Ecology Law

Under Mexican law the four primary methods of enforcement are plant closings, fines, administrative arrest and criminal penalties.¹²⁷ The first, plant closings, can be temporary, permanent, partial or a combination thereof.¹²⁸ The purpose of the closings is to encourage the negotiation of settlement agreements between SEDUE and the corporate entities formally charged with the violation.¹²⁹ Plant closings occur before negotiations and generally the plants only re-open after reaching an agreement with SEDUE, which embodies a compliance plan containing a timetable.¹³⁰ Upon the initial plant closing, an administrative proceeding is conducted, which is usually argued by affidavit.¹³¹ A decision to permanently close or partially close a facility ultimately rests with SEDUE in cases of federal jurisdiction.¹³² However, if a company contests the

122. *Id.* at 39.

123. *Id.* at 39. See also Alonzo, *supra* note 63, at 5.

124. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 40.

125. *Id.* at 27.

126. *Id.* at 27.

127. Alonzo, *supra* note 63, at 6.

128. *Id.*, see also Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 40.

129. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 42. Presently, "[t]his shut down order is proving itself as a powerful enforcement tool, by bringing the violator to the negotiation table for developing a compliance plan on terms which gives SEDUE a strong bargaining position." *Id.*

130. *Id.* at 40.

131. Alonzo, *supra* note 63, at 6.

132. *Id.*

enforcement action and the compliance agreement, it can invoke an administrative appeal for review to the Ministry of Justice.¹³³

The General Ecology Law and corresponding regulations also permit the imposition of fines from the minimum daily wage up to the equivalent of \$80,000 (U.S.).¹³⁴ The use of fines as an enforcement mechanism has varied over the years. In the early 1980's, fines were SEDUE's primary method of enforcement.¹³⁵ However, in the mid-1980's, SEDUE changed its strategy and became reluctant to use fines believing that available capital should instead be directed toward investment in pollution control equipment.¹³⁶ Today, SEDUE is reconsidering this strategy in light of the deterrent effect of monetary penalties and is currently using fines to help pass along inspection costs to the regulated community.¹³⁷

The General Ecology Law further permits the use of administrative arrest for noncompliance. While an administrative arrest is not criminal in nature, it can still deprive a corporate officer of his or her freedom for up to thirty-six hours.¹³⁸ This form of administrative detention is, however, more commonly applied for several hours on a daily basis until an agreement is reached on a compliance plan and schedule.¹³⁹ This enforcement tool has proven especially useful in Mexico's border areas for seizures of hazardous waste or cross border transportation of endangered species.¹⁴⁰

Finally, Mexico employs criminal penalties, depending on the nature of the violation, which can range from three months to six years in prison.¹⁴¹ In addition, fines can be imposed from 100 to 10,000 times the minimum daily wage.¹⁴²

133. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 40. "To date, this procedure has rarely been used." See also Gonzalez and Rodriguez, *supra* note 69, at 670-71. The word "appeal" is used in both Mexico and the United States but different meanings apply in the two systems. While an appeal in the United States precedent oriented common-law system may lead to a change in the laws, an appeal in Mexico's code system results only in a change in the interpretation of the code provision since codes may only be changed by legislative action. The use of the changed interpretation of a code resulting from an appeal subsequently becomes mandatory upon certain judges in future similar cases.

134. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 40; Alonzo, *supra* note 63, at 6.

135. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 40.

136. *Id.*

137. *Id.*

138. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 40; Alonzo, *supra* note 63, at 7.

139. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 40.

140. *Id.*

141. Alonzo, *supra* note 63, at 6.

142. *Id.*

2. Review of the Overall Effectiveness of Mexico's Enforcement Procedures

Despite the existence of Mexico's General Ecology Law, which many environmentalists acknowledge is impressive on paper,¹⁴³ SEDUE lacks the adequate resources necessary to implement a fully effective enforcement program.¹⁴⁴ NAFTA proponents maintain that Mexico can hardly devote substantial resources to environmental preservation until its economy starts growing, which depends directly on the industrial development that the free trade agreement is designed to promote.¹⁴⁵ NAFTA opponents, however, maintain that the agreement would make it easy for U.S. companies to relocate to Mexico to take advantage of poor environmental enforcement.¹⁴⁶ Further, opponents note that William Reilly conceded, under insistent questioning by Democratic members of the House Ways and Means Committee, that if Mexico chose to relax its environmental standards to attract American factories, "we have no direct recourse to apply sanctions to that company's products."¹⁴⁷ In response, Congressman Robert T. Matsui noted that "[e]ssentially, what the agreement now provides is a chance for Mexico to wink and not enforce its own laws to attract our businesses."¹⁴⁸ As a result of NAFTA opponents' fears, significant attention and efforts are being directed to strengthen Mexico's enforcement of its environmental regulation on a unilateral basis by Mexico itself¹⁴⁹ and through cooperative efforts between the U.S. and Mexico.¹⁵⁰

a. Recent Progress in Enforcement by Mexico

1. Efforts by SEDUE

SEDUE staff and management have recently undertaken significant efforts to exercise their enforcement authority and build an effective enforcement program, despite being hampered by budgetary constraints.¹⁵¹ Specifically, SEDUE has in the four years since the enactment of the General Ecology Law increased substantially the number of inspections conducted in Mexico.¹⁵² During this period SEDUE conducted 8,000

143. Stokes, *supra* note 45.

144. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 41; Alonzo, *supra* note 63, at 7; *Foreign Investors Will Not Be Allowed to Pollute Environment, Top Official Says*, *supra* note 91.

145. *Foreign Investors Will Not Be Allowed To Pollute Environment, Top Official Says*, *supra* note 91; *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2; Orme, *supra* note 43, at M2; Marshall, *supra* note 55.

146. Levy, *supra* note 8.

147. *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2.

148. Schneider, *supra* note 68, at D1.

149. Orme, *supra* note 43, at M2.

150. See Integrated Environmental Plan, *supra* note 7, at I-1 - I-3.

151. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 41.

152. *Foreign Investors Will Not Be Allowed to Pollute Environment, Top Official Says*, *supra* note 91.

inspections of industries; approximately 2,000 of these industries were closed, primarily on a temporary basis, and 150 of these closings involved maquiladora¹⁵³ industries.¹⁵⁴ Furthermore, these inspections have increased compliance. In 1989, only 6% of the maquiladoras obtained operating licenses; while in 1991, the percentage increased to 54.6%.¹⁵⁵ In 1990, only 30% of the maquiladoras generating hazardous waste declared such activity, but by 1991, the figure had risen to 55%.¹⁵⁶

In 1991, the Mexican government demonstrated its commitment to inspection efforts by permanently closing one of Mexico's biggest and most polluting oil refineries, a PEMEX facility near Mexico City.¹⁵⁷ In addition, the Mexican government's commitment to environmental reform is further demonstrated by the recently announced plans to hire 100 new environmental inspectors.¹⁵⁸

2. Increase in Available Resources for Enforcement Activities

The Mexican government's recent realization that the only way the mitigating effects of enforcement can be assured is through adequate resources resulted in an increased percentage of SEDUE's budget being designated for enforcement and enhancement of inspection capabilities.¹⁵⁹ SEDUE's 1991 budget of \$38.9 million (U.S.) provided for an expenditure of the equivalent of \$4.27 million (U.S.) on enforcement activities.¹⁶⁰ It was projected that in 1992, SEDUE would spend \$6.44 million (U.S.) on environmental enforcement, monitoring and associated control activities in the Border Area alone.¹⁶¹ SEDUE also expects to receive approximately \$45 million (U.S.) in World Bank funding, pro-

153. In 1965, the Mexican government modified its foreign investment law to permit United States corporations to establish assembly plants, "maquiladoras," in Mexican territory. The maquiladora program has been an integral part of Mexico's efforts to promote capital formation, employment and industrialization.

154. "That works out to one shut-down for every four inspections." Alonzo, *supra* note 63, at 7.

155. Integrated Environmental Plan, *supra* note 7, at V-4.

156. *Id.*

157. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 41. Plant closings such as that of the PEMEX facility are proving to be a powerful enforcement tool, by not only bringing the violator to the negotiating table for developing a compliance plan on terms which give SEDUE a strong bargaining position, but by also encouraging substantial numbers of companies to approach SEDUE to negotiate voluntary compliance agreements which are monitored once they are formalized. *See also* Alonzo, *supra* note 63, at 7. It has been estimated that closure of the PEMEX refinery cost Mexico \$500 million (U.S.) and resulted in the net loss of 5,000 jobs.

158. Stokes, *supra* note 45, at 86. *See also* Orme, *supra* note 43, at M2. "It isn't coincidental that when U.S. environmentalists began fighting the free-trade pact, the Mexican government starting hiring more environmental protection inspectors." *Id.*

159. Alonzo, *supra* note 63, at 7. *See also* Stokes, *supra* note 45. "To beef up environmental enforcement, the Mexican government increased SEDUE's budget by 613 percent over the last two years." *Id.*

160. Alonzo, *supra* note 63, at 7.

161. Integrated Environmental Plan, *supra* note 7, at 41.

vided this amount is matched by the Mexican government.¹⁶²

In addition to increasing government spending for environmental programs, Mexico is turning to the resources of the private sector.¹⁶³ As a result of Mexico's increased focus on compliance and enforcement, the private sector is becoming a major player in Mexico's effort to address its environmental problems.¹⁶⁴ Mexico's environmental infra-structure, currently in its infancy, will require the utilization of laboratories, engineering firms, legal counsel and environmental facilities for treatment, storage and disposal and will require the importation of foreign equipment, capital and expertise to accelerate its development.¹⁶⁵ Already, U.S. firms engaged in providing environmental services and technology are coming to Mexico to explore business opportunities. "Presently, U.S. companies are entering into joint ventureships with Mexican firms and are setting up local offices to establish their presence in Mexico."¹⁶⁶ Other efforts by Mexico to attract private sector resources include a current program of accepting bids for toxic waste dump concessions in the northern cities of Chihuahua, Juarez and Matamoros.¹⁶⁷

b. *Cooperative Enforcement Agreements*

Significant developments are occurring in U.S.-Mexico bilateral cooperative efforts on environmental enforcement issues. While the history of environmental cooperation between the U.S. and Mexico dates back over a century, cooperation between both countries has intensified in recent years particularly as a result of growing concern over the range of pollution problems along the shared border area.¹⁶⁸

The first formal efforts between Mexico and the United States to protect and improve the environment in the Border Area began in 1983, with the adoption of the U.S.-Mexico Border Environmental Agreement.¹⁶⁹ "This agreement outlines the primary objectives of the common border environmental cooperation; establishes a mechanism for additional agreements, annexes, and technical actions; and provides for regu-

162. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 41. "A portion of these funds are designated for improved compliance monitoring and enforcement and for carrying out increased numbers of industrial inspections." *Id.*

163. *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2.

164. Alonzo, *supra* note 63, at 13. "To date, environmental protection is a major growth industry in Mexico." *Id.*

165. *Id.*

166. *Id.* at 12.

167. *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2. See also Gonzalez and Rodriguez, *supra* note 69, at 679. Earlier attempts at cooperative efforts in environmental enforcement were dampened by: disparate agendas of the Mexican and American governments; varying levels of economic development, due to actual authority delegated to state and local entities and of regulatory development; together with a historical lack of trust and Mexico's conflicting internal needs to attract industry and still protect its environment.

168. Alonzo, *supra* note 63, at 9.

169. Integrated Environmental Plan, *supra* note 7, at I-2.

lar high-level meetings and special technical meetings to further promote and encourage environmental cooperation between the two countries.”¹⁷⁰ In addition, the 1983 Border Environmental Agreement also establishes formal communication procedures and provides that both countries designate National Coordinators to coordinate and monitor the implementation of the agreement.¹⁷¹ To date, cooperative enforcement efforts pursuant to the 1983 Border Area Agreement have focused in large part on hazardous waste enforcement issues.¹⁷²

In response to the 1983 Border Environmental Agreement and other annexes, SEDUE and EPA Work Groups were established, and communication procedures were developed for dealing with the principal environmental concerns relating to water, hazardous waste, air and contingency planning/emergency response issues affecting the Border Area.¹⁷³ The work groups cooperate in case development, training, border checks, facilities, visits, personnel exchanges, information exchange and the development of data systems.¹⁷⁴ The work groups’ objective is to focus available enforcement resources to achieve the maximum deterrent effect.¹⁷⁵ In addition, the recently created fifth and sixth work groups on cooperative enforcement strategy and pollution prevention will guide the implementation of the Integrated Border Plan, coordinate cross-cutting enforcement and voluntary pollution prevention issues and focus on various specific enforcement programs.¹⁷⁶

Cooperative enforcement efforts in Mexico and the U.S. are further facilitated by two international agreements which provide for the sharing of evidence in enforcement cases and investigations.¹⁷⁷ First, “the Hague Convention on the Taking of Evidence Abroad, to which both the United States and Mexico are parties, provides mechanisms for cooperative assistance in evidence-gathering in civil enforcement cases.”¹⁷⁸ Second, the U.S.-Mexico Mutual Legal Assistance Treaty provides similar but even more efficient mechanisms for such cooperative assistance in criminal enforcement cases.¹⁷⁹

Finally, the United States and Mexico have worked together to train and educate government officials and to regulate the community and the

170. *Id.*

171. *Id.*

172. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 42.

173. Integrated Environmental Plan, *supra* note 7, at I-2.

174. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 43.

175. *Id.*

176. Integrated Environmental Plan, *supra* note 7, at I-2.

177. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 43. “In addition to actual utilization of the procedures provided in these two agreements, the Cooperative Enforcement Working Group will be evaluating ways to build upon the concepts presented in these agreements to ensure the efficient and effective exchange of enforcement-related information.” *Id.*

178. *Id.* at 43-44.

179. *Id.* at 44.

public at large.¹⁸⁰ The 1983 Border Environmental Agreement¹⁸¹ encompassed a significant commitment to cooperate on a number of issues, including a variety of joint training initiatives.¹⁸² To date, the focus of these cooperative efforts has been on enforcement training, emergency response training and technical program training on hazardous wastes, air pollution and pollution prevention.¹⁸³

Despite these cooperative efforts, resource constraints remain the greatest limitation on the role that cooperative, and indeed even unilateral, enforcement may have in mitigating the negative environmental effects of the increased economic activity projected to be generated by NAFTA.¹⁸⁴ While both Mexico and the United States have limited funds which can be devoted to enforcement efforts, it is only by ensuring adequate financial resources for enforcement, including cooperative enforcement efforts with respect to transboundary issues, that the mitigating effect of enforcement can be assured.¹⁸⁵

III. THE INTEGRATED ENVIRONMENTAL PLAN FOR THE MEXICAN-U.S. BORDER AREA (FIRST STAGE, 1992-1994)

In a major effort to address the growing concerns over the possible environmental effects of NAFTA, the EPA and SEDUE have developed an Integrated Environmental Plan for the Mexican-U.S. Border Area.¹⁸⁶ Prior to this border proposal, environmentalists opposed to NAFTA's weak provisions pointed to the 2,000 mile U.S.-Mexican Border industrial wastelands as the strongest objective lesson in the perils of ecologically unchecked development.¹⁸⁷ Consequently, the Integrated Environmental Plan¹⁸⁸ was a key element of former President Bush's and the Mexican government's efforts to win congressional approval for NAFTA.¹⁸⁹ While this plan was originally designed to address environmental concerns in order to gain the congressional support in the U.S. for the proposed NAFTA, it has since developed into a separate, parallel agreement that is projected to commence with or without congressional approval of NAFTA.¹⁹⁰

180. *Id.* at 44.

181. 1983 U.S.-Mexico Border Environmental Agreement (often referred to as the La Paz Agreement).

182. Review of U.S.-Mexico Environmental Issues, *supra* note 12, at 44.

183. *Id.* at 44-48.

184. *Id.* at 44.

185. *Id.*

186. Integrated Environmental Plan, *supra* note 7.

187. *Id.*

188. Integrated Environmental Plan, *supra* note 7.

189. Larry B. Stammer and Judy Pasternak, *Mexico's Pollution Cleanup Tied to Trade Pact*, L.A. TIMES, Feb. 27, 1992, at A3.

190. Integrated Environmental Plan, *supra* note 7, at I-6.

A. *The U.S.-Mexican Border*

The border between Mexico and the U.S. extends for approximately 2,000 miles from the Pacific Ocean to the Gulf of Mexico.¹⁹¹ It encompasses six Mexican states and four American states.¹⁹² Presently, the Border Area's population exceeds nine million, which represents a growth of over 60% during the last ten years.¹⁹³ This increase in population along the border, particularly in Mexico, has caused serious problems of uncontrolled urban growth and unplanned land use.¹⁹⁴ To date, investments made to resolve these problems have been insufficient to compensate for Mexico's current deficits in infrastructure and urban services.¹⁹⁵ "SEDUE has estimated that services in Mexico need to be increased by the following amounts: potable water by 14 percent; water treatment and sewage by 35 percent; electric power by 10 percent; public lighting by 30 percent; and roads and highways by 53 percent."¹⁹⁶ Alarm over Mexico's lack of an adequate waste disposal infrastructure is highlighted by recent studies carried out by SEDUE and the EPA which found that the U.S.-Mexico Border zone generates 9,732 tons of garbage per day.¹⁹⁷

1. Mexico's Border Economy: The Maquiladora Industry

Since 1965, the maquiladora program, mostly concentrated in metropolitan areas along the U.S.-Mexican border, and to a more limited extent the interior of Mexico, has been an integral part of the Mexican government's efforts to promote capital formation, employment and industrialization.¹⁹⁸ In 1965, the Mexican foreign investment law was modified to permit U.S. companies to establish assembly plants, "maquiladoras," in Mexican territory.¹⁹⁹ Foreign manufacturers are allowed to

191. *Id.* at II-1.

192. *Id.* "The Border Area is defined in Article 4 of the 1983 Border Environmental Agreement as the area within 100 kilometers of each side of the international boundary." *Id.*

193. *Id.* at II-6.

194. *Id.*

195. *Id.* Lack of suitable preparation of land for housing has resulted in unplanned settlements without basic services such as wastewater treatment plants, public transportation facilities and adequate means to manage and dispose of municipal and solid waste.

196. *Id.*

197. Toledano, *supra* note 1.

In Mexico, 65 percent of total solid waste (3,286 tons) is dumped into open pits due to [the] lack of adequate landfill sites. This leads [to] air pollution as well as noxious odors. Intentional or accidental burning of garbage causes additional atmospheric pollution and garbage also has a negative potential impact on water sources both above and below ground.

Id.

198. Villalobos and Barshop, *supra* note 18, at 706. "This industry came into existence in the aftermath of the Bracero program in 1964, and was an attempt by the Mexican government to provide jobs for Mexican workers returning home from the United States." *Id.* at 705.

199. *Id.* at 705. See *supra* note 153.

temporarily import into Mexico, duty free, materials and components required to assemble or manufacture products for subsequent re-export to the country of origin, most often the United States, or to a third world country²⁰⁰

"The United States has in turn adopted trade law provisions that have stimulated American investment in the Mexican maquiladora industry and enhanced United States corporate competitiveness in international trade."²⁰¹ These trade law provisions allow the duty free re-entry into the United States of goods assembled in another country from materials and components of U.S. origin.²⁰² Thus, when manufactured goods cross the border into the U.S. from Mexico, only those parts which are not of U.S. origin and the total "value added" (mainly the cost of Mexican labor) are subject to U.S. Customs regulation.²⁰³ Consequently, an increasing number of U.S. companies have relocated their manufacturing plants to Mexican border cities to take advantage of the benefits of the maquiladora program which include lower wages and transportation costs. Thus, lower total manufacturing costs broaden markets for U.S. products by lowering the costs of goods for consumers.²⁰⁴

a. *Growth of the Maquiladora Industry*

Besides benefiting American corporations, the maquiladora industry has been one of the fastest growing sectors of the Mexican economy²⁰⁵ The maquiladora industry today remains ahead of tourism, and second only to Mexico's petroleum export, in the generation of foreign exchange.²⁰⁶ While the industry continues to exhibit strong growth rates, current growth demonstrates a trend toward deceleration when contrasted to the maquiladora "boom" years of 1983-1988, when the average annual rate of growth was 25.4%.²⁰⁷ Despite the trend toward decelera-

200. *Id.* See also Integrated Environmental Plan, *supra* note 7, at II-9.

201. Villalobos and Barshop, *supra* note 18, at 705.

202. *Id.* at 705-06. See also Integrated Environmental Plan, *supra* note 7, at II-9.

203. Villalobos and Barshop, *supra* note 18, at 706.

204. *Id.*

205. *Id.*

206. *Id.* at 707.

207. Villalobos and Barshop, *supra* note 18, at 706. CEMEX-WEFA's [Centro De Investigaciones Econometricas Mexicano—Wharton Econometric Forecasting Associates] maquiladora analysis indicates that during 1989:

- (i) there were 1,655 maquiladora plants [the number of plants totaled 1,857 at the end of February 1990];
- (ii) the industry's manufacturing output of assembled goods equaled \$12.5 billion;
- (iii) Maquiladora employment reached an average level of 429,725 workers;
- (iv) Mexican value added increased to a level of \$3.06 billion;
- (v) the value of raw materials processed by maquiladoras totaled \$9.6 billion; and
- (vi) it is estimated that in 1989 the maquiladora wage rate, including benefits, averaged \$1.62 per hour.

Id.

tion, the maquiladora program remains of enormous importance to Mexico's industrial and economic development.²⁰⁸

b. *Environmental Significance of the Maquiladora Industry*

"Although both countries have focused on the overall economic success of the Maquiladoras, 'attention has shifted recently to hazardous waste emissions from the Maquiladoras.'"²⁰⁹ Mexican environmental regulations provide that hazardous waste generated in Mexico by the maquiladora plants must be returned to the country of origin of the raw material and that the maquiladoras must comply with all Mexican environmental regulations.²¹⁰ However, relaxed environmental enforcement controls on maquiladoras by the Mexican government have lured U.S. corporations to the Mexican side of the border.²¹¹ The lack of enforcement of environmental regulations by the Mexican government, coupled with the lack of necessary public or private funding of the border's urban infrastructure, has resulted in Mexico's border cities' transformation into industrial wastelands.²¹² "By the Mexican government's own account, half the 2,000 Maquiladora plants have toxic-discharge problems."²¹³ This problem has received particular attention by both Mexican and U.S. environmental officials due to the recent series of births in the maquiladora area by women who work for and/or live near the maquiladoras of babies with either missing or incomplete brains.²¹⁴

208. *Id.*

209. Robert Scott, *The Toxic Time Bomb in the Borderland: Can the "Emergency Planning and Community Right to Know Act" Help?*, 30 NAT. RESOURCES J. 969, 970 (1990).

210. Integrated Environmental Plan, *supra* note 7, at II-9. See also Gonzalez and Rodriguez, *supra* note 69, at 659.

211. Scott, *supra* note 209.

The relocation of 'dirty' industries to avoid strict environmental controls in the industrialized countries is a pattern followed by international capital. Corporate investment in South Africa, Brazil, India and Mexico are examples of this process. Bhopal, India is perhaps the most horrifying example of what can happen when toxic controls are not in place. In 1984, a chemical factory exploded releasing large amounts of chemicals into the environment killing and injuring thousands of people. The less dramatic but more probable scenario in the borderland is the gradual contamination of the groundwater which occurred in Love Canal in 1978. Uncontrolled toxic dumping can silently poison the water source for the entire borderland region.

Id. at 970-71. See also Gwynne, *supra* note 2, at 24. "The maquiladora program is a case study of the kinds of environmental catastrophes that can happen where trade and investment rule." *Id.*

212. Orme, *supra* note 43.

213. *Id.*

214. *North American Free Trade Agreement Greeted with Suspicion by Environmental Groups*, *supra* note 2.

B. *The Integrated Environmental Plan for the Mexican-U.S. Border Area (First Stage, 1992-1994) — The Solution?*

The Integrated Environmental Plan²¹⁵ is a bilateral agreement to strengthen incentives for continuing cooperation between Mexico and the United States in improving the environment of the Border Area.²¹⁶ The decision to enter into this bilateral agreement was made at a meeting on November 27, 1990, between President Salinas and President Bush and their respective environmental authorities.²¹⁷ The result of the meeting was a joint communique that included commitments and directives for cooperative activities in response to the environmental conditions along the Mexican-U.S. border.²¹⁸ The relevant text of their joint communique on the Border Environmental Plan stated:

The Presidents emphasized the need for ongoing cooperation in the area of environmental protection. Both Presidents instructed the authorities responsible for environmental affairs of their countries to prepare a comprehensive plan designed to periodically examine ways and means to reinforce border cooperation in this regard, based on the 1983 Bilateral Agreement. Such a mechanism should seek ways to improve coordination and cooperation, with a view to solving the problems of air, soil and water quality and of hazardous wastes. State and municipal authorities of both governments and private organizations in both countries should participate in such tasks as appropriate.²¹⁹

The first stage of the Integrated Environmental Plan (1992-1994), developed jointly by SEDUE and the EPA, represents Mexico's and the United States' first step toward the fulfillment of the joint Presidential directive.

1. Scope of the Plan

The Integrated Environmental Plan²²⁰ is divided into five sections. Section I is the introduction; Section II describes the Border Area in terms of population, economic base, geography and environment. Section III discusses existing environmental issues of concern, information on the current situation, accomplishments to date and additional informational needs. Section IV highlights the procedure followed for assessing environmental priorities in the Border Area. Finally, Section V presents the specific actions that SEDUE, the EPA and other environmental agencies intend to implement during the first stage of the Integrated Environmental Plan (1992-1994), including a funding plan designed to make the Plan effective.

215. Integrated Environmental Plan, *supra* note 7.

216. Integrated Environmental Plan, *supra* note 7, at I-3.

217. *Id.* at I-1.

218. *Id.*

219. *Id.*

220. Integrated Environmental Plan, *supra* note 7.

2. Overall Effectiveness of the Plan

Section I of the Plan contains an acknowledgment that:

[t]he scope of the Border Environmental Plan is such that some of the activities specified represent only the beginning of a series of actions that will ultimately achieve environmental results along the border. Not all environmental efforts will be completed in the first year, or even the second or third years. Rather, this is the commencement of a substantially increased cooperative bi-national effort for at least the next decade to promote environmental improvements along the border.²²¹

Yet, even in view of this significant disclaimer as to the Plan's effectiveness in the immediate or near future, many feel that the Plan fails to even adequately address the environmental concerns that promulgated it.

Section V of the Plan, the only section that discusses "the Plan" in detail and not simply the problem, establishes four goals of its envisioned integrated approach to the implementation of numerous environmental solutions.²²² These are:

1. Continue media-specific and multimedia monitoring and pollution control activities in the Border Area, including the performance of baseline and periodic environmental health risk assessments;
2. Strengthen current environmental regulatory activities, as appropriate, in the Border Area through new SEDUE-EPA cooperative programs and projects supplementing the 1983 Border Environmental Agreement as needed;
3. Mobilize additional resources for pollution prevention and control in the Border Area; and
4. Supplement current pollution control programs through pollution prevention and voluntary action programs.²²³

While Section V discusses the establishment of various cooperative programs designed to effectuate these enumerated goals, it fails to establish: (1) quantifiable goals as to the decrease of pollution in Mexico's Border Area and compliance schedules; (2) that a reduction in the pollution levels be achieved at all; and (3) a recourse such as monetary fines, etc., if Mexico or the U.S. fails to comply with the Plan. The first section of the Plan merely demonstrates both countries' deep and sincere commitment to work together to solve the environmental problems in Mexico's Border Areas. As a result, the first stage of the Integrated Environmental Plan for the Mexican-U.S. Border fails to address one of the primary fears of the opponents to NAFTA, that if Mexico chooses to "wink and not enforce its own laws to attract [American] businesses,"²²⁴ there is no recourse other than negotiations. While arguably it is solely Mexico's responsibility to establish the pollution emission reduction

221. *Id.* at I-4.

222. Integrated Environmental Plan, *supra* note 7, at V-2.

223. *Id.*

224. Schneider, *supra* note 68 (quoting Congressman Robert T. Matsui).

levels in its Border Areas and monitor compliance of the Plan, without such specific reduction goals explicitly laid out in the Plan, there is no way to monitor the success of the cooperative programs objectively or to ensure that Mexico will actually continue to decrease the levels of pollution in its Border Area. Consequently, environmentalists maintain that the Integrated Environmental Plan "does not put us on the path to a pollution solution."²²⁵

CONCLUSION

Since the commencement of discussions on NAFTA, environmental protection has played a key role. If signed by the governments of Mexico, the United States and Canada, NAFTA will mark the beginning of the "greening" of American trade policy. Despite this historical fact, many environmentalists maintain that the proposed NAFTA fails to adequately address the existing environmental and economic problems in Mexico. In support of this conclusion, environmentalists point to the fact that the proposed NAFTA contains no recourse other than mere negotiation if Mexico chooses not to enforce its environmental laws to attract businesses and investments. NAFTA proponents argue, however, that without the financial resources that will be generated by NAFTA, Mexico will never be able to fully enforce its environmental regulations. Further, environmentalists fear that the Mexican government may not enforce its environmental laws after implementation of NAFTA in order to attract capital, thereby repeating the environmental holocaust of the maquiladoras. In response, NAFTA proponents point to studies which show that companies do not move their facilities across borders solely on the basis of the cost of meeting pollution control standards.

In an effort to address the environmental concerns raised over NAFTA, and thereby gain U.S. congressional support, a parallel agreement, the Integrated Environmental Plan, was developed by the Bush and Salinas Administrations. This agreement extensively discusses plans for the implementation and commencement of cooperative efforts among Mexican and U.S. environmental agencies to reduce the pollution levels in Mexico. Yet, for the treaty to adequately protect the vulnerable bor-

225. *U.S.-Mexican Border Pollution Plan, Bentsen Criticizes*, Domestic News (UPI), Feb. 25, 1992, available in LEXIS, Nexis Library, Omni File.

Sen. Lloyd Bentsen, D-Texas said he was disappointed in much of the environment plan, and concerned about how it would be implemented. "The plan appears to load more burdens on agencies least equipped to carry them. The U.S. Customs Service, already understaffed and overextended, will now have a mandate to crack down on illegal hazardous waste shipments. Additional resources are needed, and that's where the plan comes up short. The bottom line is that this plan cannot effectively reduce pollution along the border without adequate monitoring and enforcement. [The b]order residents [m]ust know who to turn to for help when they face en[v]ironmental problems, and the plan gives them no assurances on that point.

Id.

der areas, the Plan must also: (1) establish quantifiable pollution reduction goals and compliance schedules; (2) mandate that pollution levels be decreased; and/or (3) establish a recourse such as monetary fines, if either Mexico or the U.S. fails to comply with the Plan.

Presently, the outcome of NAFTA remains uncertain. The accord was signed on December 17, 1992, but the legislation needed to enforce it has not been adopted by lawmakers in Mexico, Canada or the United States. While the 2,000 page accord is scheduled to take effect on January 1, 1994, NAFTA could easily be postponed or terminated by President Clinton, who has indicated that he will not seek the required congressional legislation unless the Mexican government answers his concerns on, among other things, environmental issues.

Consequently, it appears likely that NAFTA and/or the Integrated Environmental Plan will be revised to contain, at the least, a provision for recourse remedies to be taken against a signatory that attracts investment via a reduction of environmental laws. As such, the agreement would ensure that Mexico "grows clean" by providing Mexico with the investment needed to meet its environmental challenges, deterring the Mexican government from reducing its environmental regulations and enforcement procedures to attract foreign investment and facilitating cooperative environmental enforcement efforts between the governments of the United States and Mexico.

Maryanne Foronjy

